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(NASA Only)

# **Subject: NASA Research and Technology Program and Project Management Requirements**

Responsible Office: Office of the Chief Engineer

| TOC | Preface | Chapter1 | Chapter2 | Chapter3 | Chapter4 | Chapter5 | AppendixA |
AppendixB | AppendixC | AppendixD | AppendixE | AppendixF | AppendixG | AppendixH |
AppendixI | AppendixJ | AppendixK | AppendixL | ALL |

# **Appendix F. Cross-Program Research Plan Template**

The MDAA or MSOD may authorize use of an alternative format with compatible content.

## F.1 Cross-Program Research Plan Title Page

Cross-Program Research Plan		
(Provide a title for the Cross-Program Research and designate a short title or proposed acronym in parenthesis, if appropriate.)		
It is the responsibility of each of the signing parties to notify the other in the event that a plan cannot be met and to initiate the timely renegotiations of the terms of this agreement.		
Research Director		Date
Mar. Di		
Mission Directorate Associate Administr Mission Support Office Director	ator or	Date

Figure F-1 Cross-Program Research Plan Title Page

## F.2 Cross-Program Research Plan Template

CROSS-PROGRAM RESEARCH PLAN (CROSS-PROGRAM RESEARCH TITLE)

# 1.0 Cross-Program Research Overview

### 1.1 Introduction

Briefly state the area of specialty of the Cross-Program Research and its current status, including the results of formulation activities, decisions, and documentation.

## 1.2 Cross-Program Research Goals and Objectives

State the goals and specific objectives of the Cross-Program Research and associated R&T Portfolio Projects with clear traceability to the Agency's vision and mission, as defined by NPD 1001.0, NASA Strategic Plan.

## 1.3 Customers/Beneficiaries and Stakeholders

Identify the main customers and stakeholders of the Cross-Program Research (e.g., PI, science community, technology community, public, education community, MD, MSO, OCE, OSMA, CIO, and NASA Centers) and the process to be used to ensure customer/beneficiary and stakeholder advocacy.

## 1.4 Cross-Program Research Authority and Management Structure

Identify the location (Center or Headquarters) where the Research Director resides and any Center responsibilities, if relevant. Identify the oversight council responsibilities and the approving official for projects. Identify the Research

Director who manages the Cross-Program Research.

Briefly describe the management structure of the Cross-Program Research and associated R&T Portfolio Projects. Describe the process by which Cross-Program Research is formulated, approved, reviewed, and terminated. Include lines of authority and reporting and illustrate the organization graphically. Define management responsibilities for developing, concurring, and approving principal documents related to the Cross-Program Research and R&T Portfolio Projects. Define the selection process for awarding R&T, including the Selection Official. Define any reports associated with major reviews and other key activities.

## 2.0 Cross-Program Research Baseline

## 2.1 Cross-Program Research Requirements

Document the Cross-Program Research requirements and technical success criteria, in an objective, quantifiable, and measurable form, to the maximum extent practical. The Research Director is required to document R&T Portfolio Project objectives and flow down of high-level requirements to each group of R&T investigations as it is formulated. R&T Portfolio Project success criteria such as KPPs, outcomes, and other accompanying performance indicators should be expressed in objective, quantifiable, and measurable form, where applicable. Include KPP thresholds and KPP goals, where applicable.

## 2.2 Cross-Program Research Schedule

Provide a multi-year schedule for the R&T Portfolio Projects in the Cross-Program Research, including all applicable events, such as scheduled dates for reports, and other NASA AA, MDAA, or MSOD decisions. Include the strategy for addressing schedule updates when impacts to the schedule occur.

## 2.3 Cross-Program Research Resources

All elements in full cost are to be included for each participating NASA Center, where applicable. Once program approval has been completed, this section will be a reference for reconciliation to IBPD and IFM data.

## 3.0 Cross-Program Research Process Description

## 3.1 Controls and Compliance

Describe the process by which the Cross-Program Research assures compliance with NASA policies, directives, as well as other applicable requirements. Describe the process for controlling changes to Cross-Program Research and associated R&T Portfolio Projects. Describe the strategy for supporting and/or implementing Independent Assessments.

## 3.2 Relationships to Other Programs and Organizations

- 3.2.1 Internal: Describe the way the Cross-Program Research will relate to other institutions within NASA. List the internal agreements necessary for Cross-Program Research success and projected dates of approval. This list may be maintained as a separate document that is referenced by the Cross-Program Research Plan and may be updated separate from the Cross-Program Research Plan (i.e., updates do not require formal revision to the Cross-Program Research Plan). This list should include those agreements that are concluded with the authority of the Research Director, and reference those agreements concluded with the authority of the MDAA or MSOD.
- 3.2.2 External: Describe the way the Cross-Program Research will relate to entities outside of NASA (e.g., interagency or international). List the external agreements necessary for Cross-Program Research success and projected dates of approval. This list may be maintained as a separate document that is referenced by the Cross-Program Research Plan and may be updated separate from the Cross-Program Research Plan (i.e., updates do not require formal revision to the Cross-Program Research Plan). This list should include those agreements that are concluded with the authority of the Research Director, and reference those agreements concluded with the authority of the NASA AA, MDAA, and/or MSOD.

### 3.3 Budget and Acquisition Strategy

Briefly describe the budget and acquisition approach to be applied at the Cross-Program Research level toward each R&T Portfolio Project. Identify an integrated budget typically for three or five years, including appropriate WBS elements (see Appendix K) consistent with available R&T program resources.

Define a process for determining openly competed, internally competed, and directed investments. Define a process for the solicitation, evaluation, and selection of proposals (including identifying Selection Official(s)). Establish evaluation criteria, including considerations of technical merit, and relevance to the Agency's vision and mission, as defined by NPD 1001.0, NASA Strategic Plan, and cost realism. If applicable, the Cross-Program Research Plan should incorporate by reference appropriate sections of standard R&T process documents, including the Guidebook for Proposers to Responding to a NASA Research Announcement (NRA)

(http://www.hq.nasa.gov/office/procurement/nraguidebook) and any MD or MSO omnibus NASA Research

Announcements (e.g., ROSES or ROA).

## 3.4 Cooperation and Commercialization

Identify opportunities for establishing partnerships with private industry, academia, or other governmental organizations to conduct dual use research, develop mutually beneficial technologies, and transfer results into NASA for mission use and the private sector for commercial application.

## 3.5 Data Management and Distribution

Data management planning is provided as either a section of the Cross-Program Research Plan or as a separate document. It should address the data being captured by all R&T Portfolio Projects within the Cross-Program Research and define plans for data rights and services. The plan should document how the results of R&T efforts will be disseminated, and it should also document if there are restrictions that limit or prevent the ability to disseminate data in accordance with NPR 2200.2, Requirements for Documentation, Approval, and Dissemination of NASA Scientific and Technical Information.

## 3.6 Risk Management Strategy

Summarize the risk management approach to be used for the Cross-Program Research, including appropriate actions to mitigate risk and Cross-Program Research/R&T Portfolio Project de-scope plans.

## 3.7 Reviews and Optional KDPs

Describe the reviews that the Cross-Program Research will conduct, including Formulation Reviews, peer reviews, and other independent assessments, in response to MDAA, MSOD, or governing PMC requirements. Include the timeline for these reviews. Provide the technical, scientific, schedule, cost, and other criteria, which will be utilized in the reviews. Define any optional KDPs (KDP II, III, IV, etc.) required by the DA during Implementation or determine that these optional KDPs are not needed. This should include determination of gate products required prior to the optional KDPs. Further, discuss how any projects associated with the program will be held to independent reviews as well.

#### 3.8 Waivers

Identify known waivers that the Cross-Program Research will obtain against NASA policies, directives, or other applicable external requirements. Provide rationale and risk impact for the waivers, include characteristics such as scope, complexity, visibility, cost, and safety.

#### 3.9 Change Log

Document changes to the Cross-Program Research Plan.

## 3.10 Cross-Program Research Plan Appendices

Each appendix of the Cross-Program Research Plan includes information on the specific programs and projects that are transferring R&T Portfolio Project management to the Research Director. FADs for new R&T Portfolio Projects may be attached as appendices to the Cross-Program Research Plan.

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AppendixH | AppendixI | AppendixJ | AppendixK | AppendixL | ALL |

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